AD-A099 973 PEAT MARWICK MITCHELL AND CO SAN FRANCISCO CALIF F/G 1/2
RUNWAY CAPACITY MODEL INPUTS, MIAMI INTERNATIONAL AIRPORT, IMPR--ETC(U)
JAN 77

UNCLASSIFIED NL

LEVEL II

1 of

(6) RUNWAY CAPACITY MODEL INPUTS.

MIAMI INTERNATIONAL AIRPORT
IMPROVEMENT TASK FORCE.

Peat, Marwick, Mitchell & Co.

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RUNWAY CAPACITY MODEL INPUTS
MIAMI INTERNATIONAL AIRPORT
IMPROVEMENT TASK FORCE

Aircraft Classification

Revised aircraft classification reflects new ATC rules contained in FAA Handbook 7110.65.

AVE.	Aircraft Class	Description
3%	A	Small single-engine aircraft (less than 12,500 lbs)
12	B	Small twin-engine aircraft (less than 12,500 lbs and Lear Jets)
60	C	Large aircraft (between 12,500 lbs and 300,000 lbs)
25	D	Heavy aircraft (more than 300,000 lbs)

Aircraft Mix

Additional information (mix by runway and airfield mix) needed.

Runway Uses.

See attached figure.

Ceiling/Visibility

Runway Use	Ceiling	Visibility
Cases 1 & 2	At least 1,500 feet	At least 5 miles
Cases 3 & 4	Between 200 feet & 1,500 feet	Between 2,400 feet RVR & 5 miles
Cases 5 & 6	Less than 200 feet	Between 1,200 feet RVR & 2,400 feet RVR

Airspace Restrictions

NONE

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Effective Common Approach Path Length (Nautical Miles)

	A	B	C	D
Runway 12	2	2	5	5
All other runways	5	5	5	5

Approach Speed (Ground Speed, Knots)

FROM MARKER IN.

A	B	C	D
95	120	130	140

Percent Arrivals

Cases 1 to 4	40, 50, 60% (departure peak) at arrival peak period
Cases 5 and 6	0%

Effective Arrival Runway Occupancy Time (Seconds)

BASED ON 1000 OBSERVATIONS.

	A	B	C	D
9R	35	41	53	62
9L	35	41	50	52
27R	35	41	52	63
27L	35	41	55	63
12	35	41	51	57
30	35	41	53	63

Reflective of VFR

Cases 3 & 4 +10 secs for IFR.

Effective Departure Runway Occupancy Time (Seconds)

TIME ENTERING RUNWAY TO TIME OF LIFT OFF

	A	B	C	D
Cases 1 to 4	~~33~~ 29	~~36~~ 34	~~40~~ 35	~~45~~ 42
~~Cases 5 and 6~~	~~60~~	~~60~~	~~60~~	~~60~~

BASED

Arrival-Arrival Separation (Nautical Miles)

Mean of achieved separation on approach path.

Actual observed values. Not at saturation conditions.

		Trail Aircraft Class			
		A	B	C	D
Lead Aircraft Class	A	1.5	1.5	3.3	3.5
	B	1.5	1.5	3.3	3.5
	C	4.5	4.5	4.0	4.5
	D	6.5	6.5	5.5	5.0

Use arrival separations as found at other airports.

Will develop new values for saturation conditions

Standard deviation = 30 seconds.

Departure-Departure Separation (Seconds)

Mean achieved minimum separation at threshold.

Cases 1 to 4

		Trail Aircraft Class			
		A	B	C	D
Lead Aircraft Class	A	35	45	60	60
	B	45	45	60	60
	C	60	60	60	60
	D	120	120	120	90

Will develop new values for saturation.

Cases 5, 6

		Trail Aircraft Class			
		A	B	C	D
Lead Aircraft Class	A	120	120	120	120
	B	120	120	120	120
	C	90	90	120	120
	D	120	120	120	120

Departure-Arrival Separation

- D9L/A12;* D12/A9L;

		Arrival Aircraft Class			
		A	B	C	D
Departure Aircraft Class	A	0	0	0	0
	B	0	0	0	0
	C	60	60	60	60
	D	60	60	60	60

Will develop new values

*D9L/A12 means departures on 9L and arrivals on 12, etc.

Departure-Arrival Separation (cont.)

- D27L/A30;* D27R/A30
  60 seconds for all aircraft pairs

- D12/A9R; D9R/A12
  60 seconds for all aircraft pairs, except if lead aircraft is "heavy," separation is 120 seconds.

Arrival-Departure Separation

- A9L/D12; A12/D9L

		Departure Aircraft Class			
		A	B	C	D
Arrival Aircraft Class	A	0	0	20	20
	B	0	0	20	20
	C	0	0	20	20
	D	0	0	20	20

- A9R/D12; A12/D9R; A30/D27L
  20 seconds for all aircraft pairs

Arrival-Arrival Separations (Different Runways)

- A30/A27R; A27R/A30
  independent

- A30/A27L; A27L/A30
  60 seconds for all aircraft pairs

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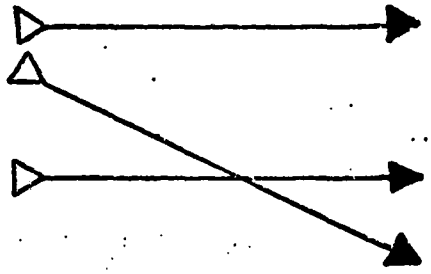
*D27L/A30 means departures on 27L and arrivals on 30, etc.

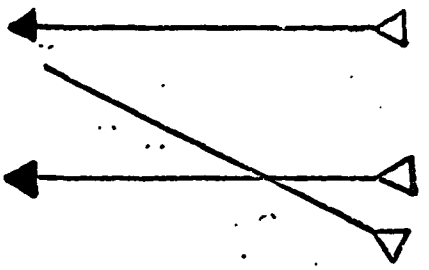
HIMMI INTERNATIONAL AIRPORT

BASELINE CASES

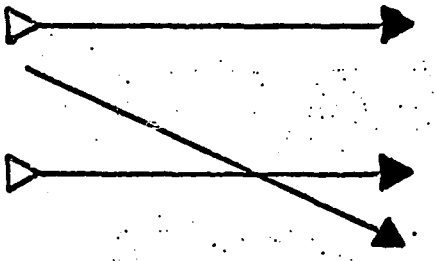
CASE 1 > 1500' > 5 mi



CASE 2 > 1500' > 5 mi

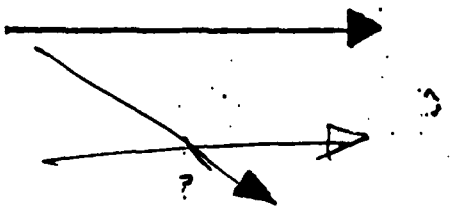


CASE 3 < 1500 < 5



CASE 4 < 1500' < 5 mi

CASE 5 (1600) < 200' < 2400' RVR



CASE 6 (1600) < 200' < 2400 RVR